DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV
Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation

The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

Industrieanlagen-Betriebsgesellschaft mit beschränkter Haftung
Prüflabor für Qualifikationstests des Raumfahrt-Testzentrums der IABG mbH
Einsteinstraße 20, 85521 Ottobrunn

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

Electromagnetic Compatibility (EMC), Electrotechnics (Environmental tests)

The accreditation certificate shall only apply in connection with the notice of accreditation of 2020-02-07 with the accreditation number D-PL-12001-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 22 pages.

Registration number of the certificate: **D-PL-12001-01-00**

Frankfurt am Main, 2020-02-07	Dipl.-Ing. (FH) Ralf Egner Head of Division	Translation issued: 2020-11-17	Head of Division

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
https://www.dakks.de/en/content/accredited-bodies-dakks

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Deutsche Akkreditierungsstelle GmbH

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Spittelmarkt 10
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Office Frankfurt am Main
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38116 Braunschweig

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). DAkkS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-12001-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **2020-02-07**

Date of issue: 2020-02-07

Holder of certificate:

Industrieanlagen-Betriebsgesellschaft mit beschränkter Haftung
Prüflabor für Qualifikationstests des Raumfahrt-Testzentrums der IABG mbH
Einsteinstraße 20, 85521 Ottobrunn

Tests in the fields:

Electromagnetic Compatibility (EMC), Electrotechnics (Environmental tests)

Within the scope of accreditation marked with *), the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing procedures within the flexible scope of accreditation.

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Electromagnetic Compatibility (EMC)			
Standards: Civil Aviation			
EMC*	RTCA DO-160A, Sec. 15 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	

The management system requirements in DIN EN ISO/IEC 17025 are written in language relevant to operations of testing laboratories and operate generally in accordance with the principles of DIN EN ISO 9001.

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH. https://www.dakks.de/en/content/accredited-bodies-dakks

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160A, Sec. 16 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160A, Sec. 17 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160A, Sec. 18 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160A, Sec. 19 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160A, Sec. 20 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	
EMC*	RTCA DO-160A, Sec. 21 25-Jan-1980	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160B, Sec. 15 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	
EMC*	RTCA DO-160B, Sec. 16 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160B, Sec. 17 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160B, Sec. 18 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160B, Sec. 19 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160B, Sec. 20 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	
EMC*	RTCA DO-160B, Sec. 21 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160B, Sec. 22 20-Jul-1984	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	
EMC*	RTCA DO-160C, Sec. 15 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	
EMC*	RTCA DO-160C, Sec. 16 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160C, Sec. 17 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160C, Sec. 18 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160C, Sec. 19 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160C, Sec. 20 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	
EMC*	RTCA DO-160C, Sec. 21 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160C, Sec. 22 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160C, Sec. 25 04-Dec-1989	Environmental Conditions and Test Procedures of Airborne Equipment, Section 25: Electrostatic Discharge (ESD)	
EMC*	RTCA DO-160D, Sec. 15 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	
EMC*	RTCA DO-160D, Sec. 16 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160D, Sec. 17 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160D, Sec. 18 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160D, Sec. 19 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160D, Sec. 20 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	
EMC*	RTCA DO-160D, Sec. 21 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160D, Sec. 22 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160D, Sec. 25 Change 1, 14-Dec-2000 Change 2, 21-Jun-2002 Change 3, 12-May-2002	Environmental Conditions and Test Procedures of Airborne Equipment, Section 25: Electrostatic Discharge (ESD)	
EMC*	RTCA DO-160E, Sec. 15 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	
EMC*	RTCA DO-160E, Sec. 16 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160E, Sec. 17 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160E, Sec. 18 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160E, Sec. 19 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160E, Sec. 20 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	Chapter 20.5 RS without CAT L (PM)
EMC*	RTCA DO-160E, Sec. 21 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160E, Sec. 22 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	
EMC*	RTCA DO-160E, Sec. 25 09-Dec-2004	Environmental Conditions and Test Procedures of Airborne Equipment, Section 25: Electrostatic Discharge (ESD)	
EMC*	RTCA DO-160F, Sec. 15 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160F, Sec. 16 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160F, Sec. 17 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	
EMC*	RTCA DO-160F, Sec. 18 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160F, Sec. 19 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160F, Sec. 20 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	Chapter 20.5 RS without CAT L (PM)
EMC*	RTCA DO-160F, Sec. 21 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160F, Sec. 22 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	
EMC*	RTCA DO-160F, Sec. 25 06-Dec-2007	Environmental Conditions and Test Procedures of Airborne Equipment, Section 25: Electrostatic Discharge (ESD)	
EMC*	RTCA DO-160G, Sec. 15 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 15: Magnetic Effect	
EMC*	RTCA DO-160G, Sec. 16 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 16: Power Input	
EMC*	RTCA DO-160G, Sec. 17 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 17: Voltage Spike	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	RTCA DO-160G, Sec. 18 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 18: Audio Frequency Conducted Susceptibility – Power Inputs	
EMC*	RTCA DO-160G, Sec. 19 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 19: Induced Signal Susceptibility	
EMC*	RTCA DO-160G, Sec. 20 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 20: Radio Frequency Susceptibility (Radiated and Conducted)	Chapter 20.5 RS without CAT L (PM)
EMC*	RTCA DO-160G, Sec. 21 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 21: Emission of Radio Frequency Energy	
EMC*	RTCA DO-160G, Sec. 22 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 22: Lightning Induced Transient Susceptibility	
EMC*	RTCA DO-160G, Sec. 25 08-Dec-2010	Environmental Conditions and Test Procedures of Airborne Equipment, Section 25: Electrostatic Discharge (ESD)	
EMC	ABD0100.1.2D Dec-2000	AIRBUS Equipment-Design-General Requirements for Suppliers: - Environmental Conditions and Test Requirements Associated to Qualification, Section 3: Electromagnetic Environment Requirements	
EMC	ABD0100.1.2E Sep-2002	AIRBUS Equipment-Design-General Requirements for Suppliers: - Environmental Conditions and Test Requirements Associated to Qualification, Section 3: Electromagnetic Environment Requirements	
EMC	ABD0100.1.2F Oct-2007	AIRBUS Equipment-Design-General Requirements for Suppliers: - Environmental Conditions and Test Requirements Associated to Qualification, Section 3: Electromagnetic Environment Requirements	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC	ABD0100.1.2G Dec-2008	AIRBUS Equipment-Design-General Requirements for Suppliers: - Environmental Conditions and Test Requirements Associated to Qualification, Section 3: Electromagnetic Environment Requirements	
EMC	SPX 902 A0002 E01 Revision: E 29-Jun-2006	Environmental Requirements for Equipment Installed on Eurocopter Helicopter Chapter 6, Electromagnetic Environment	without VFR Severe RS
EMC	SPX 902 A0002 E01 Revision: E 29-Jun-2006	Environmental Requirements for Equipment Installed on Eurocopter Helicopter Chapter 7, Lightning Effects	without 7.2
EMC	SPX 902 A0002 E01 Revision: E 29-Jun-2006	Environmental Requirements for Equipment Installed on Eurocopter Helicopter Chapter 8, Electrostatic Discharge (ESD)	
EMC	D6-16050-4 Revision: D 24-Jul-2002	Electromagnetic Interference Control Requirements	
EMC	D6-16050-5 Revision: C 06-Sep-2006	Electromagnetic Interference Control Requirements for Composite Airplanes	
EMC	IATA Dangerous Goods Regulation 55. Issue 01-Jan-2014	PACKING INSTRUCTION 953 Magnetized material on passenger aircraft and Cargo Aircraft Only	
EMC*	DIN EN 2282 Mai-1992	Aerospace series; characteristics of aircraft electrical supplies	
EMC	ABD0100.1.8C Jan-2001	Airbus Directives (ABD) and Procedures Module: 0100.1.8 Electrical and Installation Requirements	
EMC	ABD0100.1.8D Aug-2002	AIRBUS Equipment-Design-General Requirements for Suppliers: - Electrical and Installation Requirements	
EMC	ABD0100.1.8E Apr-2005	AIRBUS Equipment-Design-General Requirements for Suppliers: - Electrical and Installation Requirements	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC	ABD0100.1.8.1B Sep-2007	AIRBUS – A350 Equipment-Design-General Requirements for Suppliers: Electrical and Installation Requirements Electrical Characteristics of A350 AC and DC Equipment	
EMC	ABD0100.1.8.1C Jul-2008	AIRBUS – A350 Equipment-Design-General Requirements for Suppliers: Electrical and Installation Requirements Electrical Characteristics of A350 AC and DC Equipment	
EMC	D6-37851 Revision C 19-Feb-1998	Electric Power Characteristics for items of equipment installed on the 737-300, -700 Airplanes	
EMC	D200Z001 Revision F 11-Dec-1990	General Electrical Requirements for Electrical and Electronic Equipment - 777	
EMC	787B3-0147 Revision C 06 October 2006	787 Electrical Power Quality and Design Requirements Document	
Standards, Military: Air Force / Army / Navy			
EMC*	MIL-STD-461A 01-Aug-1968 Notice 3, 01-May-1970 Notice 4, 09-Feb-1971	Military Standard - Electromagnetic Interference Characteristics Requirements for Equipment	
EMC*	MIL-STD-461B 01-Apr-1980	Military Standard - Electromagnetic Emission and Susceptibility Requirements for the Control of Electromagnetic Interference	
EMC*	MIL-STD-461C 04-Aug-1986	Military Standard - Electromagnetic Emission and Susceptibility Requirements for the Control of Electromagnetic Interference	
EMC*	MIL-STD-461D 11-Jan-1993	Military Standard – Requirements for the Control of Electromagnetic Interference Emission and Susceptibility	without RS105
EMC*	MIL-STD-461E 20-Aug-1999	Department of Defense Interface Standard – Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment	without RS105

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	MIL-STD-461F 10-Dec-2007	Department of Defense Interface Standard – Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment	without RS105
EMC*	MIL-STD-461G 11-Dec-2015	Department of Defense Interface Standard – Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment	without RS105
EMC*	MIL-STD-462 Notice 1, 31-Jul-1967 Notice 2, 01-Aug-1968 Notice 3, 09-Feb-1971 Notice 4, 01-Apr-1980 Notice 5, 04-Aug-1986 Notice 6, 30-Aug-1999	Military Standard - Electromagnetic Interference Characteristics, Measurement of Electromagnetic Interference Characteristics	
EMC*	MIL-STD-462D 11-Jan-1993	Military Standard - Measurement of Electromagnetic Interference Characteristics	
EMC	SP-P-90 010 Issue 1 21-Nov-1995	Tornado EMC Specification for Equipment	
EMC	SPE-J-000-E-1000 Issue: 1 Feb-1991	Electromagnetic Compatibility Specification for Equipment	without LEMP-EFA1 LEMP-EFA2
EMC	SPE-J-000-E-1006 Issue: 2 Oct-1996	Electromagnetic Compatibility Specification for Aerospace Ground Equipment	
EMC	D6-16050-6 Revision: A 18-Apr-201	Electromagnetic Interference Control Requirements 767-2C	
EMC*	DEF-STAN-59-411 Part 3 Issue: 1, 23-Jan-2007 Amdt 1, 31-Jan-2008	Ministry of Defence Electromagnetic Compatibility Part 3 – Test Methods and Limits for Equipment und Sub Systems	without DCS04, DCS08
EMC*	VG 95373: Part 10 Nov-1987	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 10: Test procedure for conducted emissions (current)	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	VG 95373-10 Nov-2008	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 10: Test procedure for conducted emissions (current)	
EMC*	VG 95373: Part 11 Nov-1993	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment – Part 11: Test procedure for interference voltage	
EMC*	VG 95373: Part 12 Aug-1989	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 12: Test procedures for radiated emissions	
EMC*	VG 95373-12 Nov-2008	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 12: Test procedures for radiated emissions	
EMC*	VG 95373: Part 13 Sep-1993	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 13: Test procedures for radiated susceptibility	
EMC*	VG 95373-13 Nov-2008	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment – Part 13: Test procedures for radiated susceptibility	
EMC*	VG 95373: Part 14 Jul-1998	Electromagnetic Compatibility (EMC) - Electromagnetic compatibility of equipment - Part 14: Test procedures for conducted susceptibility	
EMC*	VG 95373-14 Nov-2008	Electromagnetic Compatibility (EMC) - Electromagnetic compatibility of equipment - Part 14: Test procedures for conducted susceptibility	
EMC*	VG 95373: Part 15 Feb-1997	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 15: Test procedures for coupling and shielding	
EMC*	VG 95373:Part 15 Jul-2004	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of equipment - Part 15: Test procedures for coupling and shielding	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	VG 95370: Part 10 Jan-2003	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of and in systems - Part 10: Test procedure for conducted emissions (current)	
EMC*	VG 95370: Part 11 Feb-2003	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of and in systems - Part 11: Test procedures for interference voltage	
EMC*	VG 95370: Part 12 Jan-2003	Electromagnetic compatibility (EMC) - Electromagnetic compatibility of and in systems - Part 12: Test procedures for radiated emissions of systems	
EMC*	AECTP 500 Edition 2 Jan-2006	Electrical / Electromagnetic Environmental Tests	without NRS03
EMC*	MIL-STD-704A 09-Aug-1966 Notice 2: 05-May-1970 Notice 3: 11-Apr-1973	Military Standard – Electric Power, Aircraft Characteristics	
EMC*	MIL-STD-704E	Military Standard – Aircraft Electric Power Characteristics	
EMC*	MIL-STD-704F 12-Mar-2004	Department of Defense Interface Standard – Aircraft Electric Power Characteristics	
EMC*	MIL-HDBK-704-8 09-Apr-2004	Department of Defense Handbook - Guidance for Test Procedures for Demonstration of Utilization Equipment Compliance to Aircraft Electrical Power Characteristics 28 VDC (Part 8 of 8 Parts)	
EMC*	MIL-STD-1275A 17-Sep-1976 Notice 1: 08-Feb-1980 Notice 2: 23-Apr-1981	Military Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	
EMC*	MIL-STD-1275B 20-Nov-1997	Department of Defense Interface Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	
EMC*	MIL-STD-1275C 23-Jun-2006	Department of Defense Interface Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	MIL-STD-1275D 29-Aug-2006	Department of Defense Interface Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	
EMC*	MIL-STD-1275E 22-Mar-2013	Department of Defense Interface Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	
EMC*	MIL-STD-1399 (Navy) 13-Oct-1987	Department of Defense Interface Standard – Characteristics of 28 Volt DC Electrical Systems in Military Vehicles	
EMC*	STANAG 1008 Edition 8 21-Feb-1994	STANAG 1008 NAV (Edition 8) – Characteristics of Shipboard Electrical Power Systems in Warships of the North Atlantic Treaty Navies	
EMC	AMD-24 Issue: B 17-Dec-2003	A400M Directive Electrical Characteristics of aircraft AC and DC Systems	
EMC	AMD-24 Issue: C 22-Mar-2005	A400M Directive Electrical Characteristics of aircraft AC and DC Systems	
Standards: Space Flight			
EMC	ECSS-E-ST-20-07C 31-Jul-2008	European Cooperation for Space Standardization Space Engineering – Electromagnetic Compatibility	
EMC	ECSS-E-ST-20-07C_Rev.1 07-Feb-2012	European Cooperation for Space Standardization Space Engineering – Electromagnetic Compatibility	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Common Standards			
EMC*	DIN EN 61000-6-2 (VDE 0839-6-2):03-2006	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2:2005); German Version EN 61000-6-2:2005	
EMC*	DIN EN 61000-6-1 (VDE 0839-6-1):10-2007	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:2005); German Version EN 61000-6-1:2007	
EMC*	DIN EN 61000-4-2; VDE 0847-4-2:2009-12	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques Electrostatic discharge immunity test (IEC 61000-4-2:2008); German Version EN 61000-4-2:2009	
EMC*	DIN EN 61000-4-3; VDE 0847-4-3:2011-04	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2006 + A1:2007 + A2:2010); German version EN 61000-4-3:2006 + A1:2008 + A2:2010	
EMC*	DIN EN 61000-4-4; VDE 0847-4-4:2013-04	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques Electrical fast transient/burst immunity test (IEC 61000-4-4:2012); German Version EN 61000-4-4:2012	
EMC*	DIN EN 61000-4-5; VDE 0847-4-5:2015-03	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques Surge Immunity Test (IEC 61000-4-5:2014); German Version EN 61000-4-5:2014	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	DIN EN 61000-4-6; VDE 0847-4-6:2014-08	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:2013); German Version EN 61000-4-6:2014	Without EM Clamp
EMC*	DIN EN 61000-4-8; VDE 0847-4-8:2010-11	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques Power frequency magnetic field immunity test (IEC 61000-4-8:2009); German Version EN 61000-4-8:2010	
EMC*	DIN EN 61000-4-11; 2005-02 VDE 0847-4-11:2005-02	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11:2004); German Version EN 61000-4-11:2004	
EMC*	DIN EN 61000-3-2; VDE 0838-2:2015-03	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current < 16 A per phase) (IEC 61000-3-2:2014); German Version EN 61000-3-2:2014	
EMC*	DIN EN 61000-3-3; VDE 0838-3:2014-03	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current < 16 A per phase and not subject to conditional connection (IEC 61000-3-3:2013); German Version EN 61000-3-3:2013	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
EMC*	DIN EN 61000-3-11 VDE 0838-11:2001-04	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current < 75 A and subject to conditional connection (IEC 61000-3-11:2000); German Version EN 61000-3-11:2000	
EMC*	DIN EN 61000-3-12; VDE 0838-12:2012-06	Electromagnetic compatibility (EMC) - Part 3-12: Limits- Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and < 75 A per phase (IEC 61000-3-12:2011); German Version EN 61000-3-12:2011	
EMC*	DIN EN 55024:2011-09; VDE 0878-24:2011-09	Information technology equipment - Immunity characteristics - Limits and methods of measurement (CISPR 24:2010); German Version EN 55024:2010	
Vibration and Shock (VUS)			
Environmental testing*	DIN EN 60068-2-6; 2008-10	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	
Environmental testing*	DIN EN 60068-2-64; 2009-04	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	
Environmental testing*	DIN EN 60068-2-80; 2006-05	Environmental testing - Part 2-80: Tests - Test Fi: Vibration - Mixed mode	
Environmental testing*	DIN EN 60068-2-53; 2011-02	Environmental testing - Part 2-53: Tests and guidance: Combined climatic (temperature/humidity) and dynamic (vibration/shock) tests	without damp heat (cyclic and constant)
Environmental testing*	DIN EN 60068-2-27; 2010-02	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing*	DIN EN 60068-2-31; 2009-04	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	
Environmental testing*	DIN EN 60068-2-81; 2004-07	Environmental testing - Part 2-81: Tests - Test Ei: Shock - Shock response spectrum synthesis	
Environmental testing*	DIN EN 60068-2-7; 1995-03	Basic environmental testing procedures - Part 2: Tests; Test Ga and guidance: Acceleration, steady	
Environmental testing*	DIN EN 60068-2-1; 2008-01	Environmental testing - Part 2-1: Tests - Test A: Cold	only Procedure A; only in combination with vibration and shock
Environmental testing*	DIN EN 60068-2-2; 2008-05	Environmental testing - Part 2-2: Tests - Test B: Dry Heat	only Procedure Pb; only in combination with vibration and shock
Environmental testing*	DIN EN 60068-2-14; 2010-04	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	only Procedure Nb; only in combination with vibration and shock
Standards: Railway			
Environmental testing*	DIN EN 61373; 2011-04	Railway applications - Rolling stock equipment - Shock and vibration tests	Vibration from 3 / 4 Hz
Environmental testing*	DIN EN 61373; 1999-11	Railway applications - Rolling stock equipment - Shock and vibration tests	Vibration from 3 / 4 Hz
Standards: Automotive			
Environmental testing*	ISO 16750-3 2012-12	Road vehicles - Environmental conditions and testing for electrical and electronic equipment - Part 3: Mechanical loads	without Sec 4.4 Scratch and Sec 4.5 Gravel
Standards: Civil Navy			

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing*	GL 2012	Germanischer Lloyd – Rules for Classification and Construction – Guidelines for the Performance of Type Approvals – Test Requirements for Electrical / Electronic Equipment and Systems Sec. 9 Vibrations	Vibration from 3/4 Hz
Environmental testing*	ABS 2014	Rules for Building and Classing Steel Vessels Tab. 1; No. 5 Vibration	Vibration from 3/4 Hz
Standards: Civil Aviation			
Environmental testing*	RTCA/DO-160D Section 7 07-1997	Environmental Conditions and Test Procedures for Airborne Equipment – Section 7 - Operational Shocks and Crash Safety	
Environmental testing*	RTCA/DO-160E Section 7 12-2004	Environmental Conditions and Test Procedures for Airborne Equipment – Section 7 - Operational Shocks and Crash Safety	
Environmental testing*	RTCA/DO-160F Section 7 12-2007	Environmental Conditions and Test Procedures for Airborne Equipment – Section 7 - Operational Shocks and Crash Safety	
Environmental testing*	RTCA/DO-160G Section 7 12-2010	Environmental Conditions and Test Procedures for Airborne Equipment – Section 7 - Operational Shocks and Crash Safety	
Environmental testing*	RTCA/DO-160D Section 8 07-1997	Environmental Conditions and Test Procedures for Airborne Equipment – Section 8 - Vibration	
Environmental testing*	RTCA/DO-160E Section 7 12-2004	Environmental Conditions and Test Procedures for Airborne Equipment – Section 8 - Vibration	
Environmental testing*	RTCA/DO-160F Section 7 12-2007	Environmental Conditions and Test Procedures for Airborne Equipment – Section 8 - Vibration	
Environmental testing*	RTCA/DO-160G Section 7 12-2010	Environmental Conditions and Test Procedures for Airborne Equipment – Section 8 - Vibration	

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing	ABD0100.1.2 Issue E 09-2002	Airbus – Environmental Conditions and Test Requirements Associated to Qualification Chapter 1.5 Shocks Chapter 1.6 Vibration	without Acoustics
Environmental testing	ABD0100.1.2 Issue F 10-2007	Airbus – Environmental Conditions and Test Requirements Associated to Qualification Chapter 1.5 Shocks Chapter 1.6 Vibration	without Acoustics
Environmental testing	ABD0100.1.2 Issue G 12-2008	Airbus – Environmental Conditions and Test Requirements Associated to Qualification Chapter 1.5 Shocks Chapter 1.6 Vibration	without Acoustics
Environmental testing	SPX 902 A 0002 E01 Issue E 06/1999	Environmental Requirements for Equipment installed on Eurocopter Helicopter Chapter 5	
Environmental testing*	ISO 2669 04/1995	Environmental tests for aircraft equipment - Steady-state acceleration	
Standards: Military			
Environmental testing*	MIL-STD-810E Method 513.4 07/1989	Military Standard – Environmental Test Methods and Engineering Guidelines Acceleration	only centrifuge
Environmental testing*	MIL-STD-810F Method 513.5 01/2000	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Acceleration	only centrifuge
Environmental testing*	MIL-STD-810G Method 513.6 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Acceleration	only centrifuge
Environmental testing*	MIL-STD-810G w/ Change 1 Method 513.7 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Acceleration	only centrifuge

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing*	MIL-STD-810E Method 514.4 07/1989	Military Standard – Environmental Test Methods and Engineering Guidelines Vibration	without Loose Cargo and Large Assembly Vibration; Vibration from 3 / 4 Hz
Environmental testing*	MIL-STD-810F Method 514.5 01/2000	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Vibration	without Loose Cargo and Large Assembly Vibration; Vibration from 3 / 4 Hz
Environmental testing*	MIL-STD-810G Method 514.6 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Vibration	without Loose Cargo and Large Assembly Vibration; Vibration from 3 / 4 Hz
Environmental testing*	MIL-STD-810G w/ Change 1 Method 514.7 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Vibration	without Loose Cargo and Large Assembly Vibration; Vibration from 3 / 4 Hz
Environmental testing*	MIL-STD-810E Method 516.4 07/1989	Military Standard – Environmental Test Methods and Engineering Guidelines Shock	without Pendulum Impact
Environmental testing*	MIL-STD-810F Method 516.5 01/2000	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Shock	without Pendulum Impact
Environmental testing*	MIL-STD-810G Method 516.6 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Shock	without Pendulum Impact
Environmental testing*	MIL-STD-810G w/ Change 1 Method 516.7 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Shock	without Pendulum Impact

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing*	MIL-STD-810F Method 517 01/2000	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Pyroshock	
Environmental testing*	MIL-STD-810G Method 517.1 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests, Pyroshock	
Environmental testing*	MIL-STD-810G w/ Change 1 Method 517.2 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Pyroshock	
Environmental testing*	MIL-STD-810E Method 519.4 07/1989	Military Standard – Environmental Test Methods and Engineering Guidelines Gunfire	Procedure IV only
Environmental testing*	MIL-STD-810F Method 519.5 01/2000	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Gunfire	Procedure IV only
Environmental testing*	MIL-STD-810G Method 519.6 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Gunfire	Procedure IV only
Environmental testing*	MIL-STD-810G w/ Change 1 Method 519.7 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Gunfire	Procedure IV only
Environmental testing*	MIL-STD-810G Method 528 10/2008	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Mechanical Vibrations of Shipboard Equipment	Type I only; Vibration from ab 3 / 4 Hz
Environmental testing*	MIL-STD-810G w/ Change 1 Method 528.1 04/2014	Department of Defense Test Method Standard – Environmental Engineering Considerations and Laboratory Tests Mechanical Vibrations of Shipboard Equipment	Type I only; Vibration from ab 3 / 4 Hz
Environmental testing*	MIL-STD-167-1A 11/2005	Department of Defense Test Method Standard – Mechanical Vibrations of Shipboard Equipment	Type I only; Vibration from ab 3 / 4 Hz
Standards: Space			

Depart-ment	Standard/in house procedure/Version	Title of standard or in house procedure	Test area / Reductions
Environmental testing*	ECSS-E-ST-10-03C 06/2012	European Cooperation for Space Standardization Space Engineering – Testing	Vibration, Shock and Acceleration only